Amendments to the Claims:

The listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently amended) A medical device comprising a coating **rendering the medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof**, wherein the coating comprises a therapeutically effective amount of **a type of antibody which reacts with an endothelial cell surface antigen,** ~~one or more antibodies~~ and one or more layers of a matrix~~, and wherein the one or more antibodies is selected from the group consisting of antibodies, fragments thereof and combinations of the antibodies and fragments which react with an endothelial cell surface antigen~~.

2. (Currently amended) The medical device of claim 1, wherein the matrix is layered onto the surface of the medical device and ~~the one or more~~ antibodies**, or fragments thereof, of the type which reacts with an endothelial cell surface antigen are** [is] tethered covalently by a linker molecule to the matrix.

3. (Cancelled)

4. (Original) The medical device of claim 1, wherein the antibody is a monoclonal antibody.

5. (Original) The medical device of claim 1, wherein the medical device is a stent.

6. (Withdrawn) The medical device of claim 1, wherein the medical device is a synthetic graft.

7. (Original) The medical device of claim 1, wherein the endothelial cell is a human cell.

8. (Original) The medical device of claim 4, wherein the monoclonal antibody reacts with endothelial cell surface antigen CD34.

9. (Original) The medical device of claim 4 or 8, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

10. (Withdrawn) A medical device coated with a therapeutically effective amount of at least one type of antibody which reacts with an endothelial cell antigen and at least one layer of a matrix, wherein the matrix comprises polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose or carbon.

11. (Withdrawn) The medical device of claim 10, wherein the antibody is tethered covalently by a linker molecule to the last layer of the matrix coating the medical device.

12. (Withdrawn) The medical device of claim 10, wherein the antibody is a monoclonal antibody.

13. (Withdrawn) The medical device of claim 10, wherein the medical device is a stent.

14. (Withdrawn) The medical device of claim 10, wherein the medical device is a synthetic graft.

15. (Withdrawn) The medical device of claim 10, wherein the endothelial cell is a human cell.

16. (Withdrawn) The medical device of claim 12, wherein the monoclonal antibody reacts with endothelial cell surface antigen, CD34.

17. (Withdrawn) The medical device of claim 12 or 16, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

18. (Currently amended) A coating composition for rendering a medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof, wherein the coating composition comprises a matrix and a therapeutically effective amount of **a type of antibody which reacts** ~~one or more antibodies, and wherein the one or more antibodies is selected from the group consisting of antibodies, fragments thereof which react~~ with an endothelial cell surface antigen.

19. (Withdrawn) The composition of claim 18, wherein the matrix comprises polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose or carbon.

20. (Currently amended) The coating composition of claim 18, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, **and** expanded polytetrafluoroethylene ~~and mixtures thereof~~.

21. (Previously presented) The coating composition of claim 18, wherein the antibody is a monoclonal antibody.

22. (Previously presented) The coating composition of claim 18, wherein the endothelial cell is a human cell.

23. (Previously presented) The coating composition of claim 21, wherein the monoclonal antibody reacts with endothelial cell surface antigen, CD34.

24. (Previously presented) The coating composition of claim 21 or 23, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

25. (Currently amended) A method for rendering a medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof, comprising the steps [of]:

(a) coating the medical device with one or more layers of a matrix; and

(b) adding to the matrix layer a therapeutically effective amount of **a type of antibody which reacts** ~~one or more antibodies, wherein the one or more antibodies is selected from the group consisting of antibodies,]fragments thereof and combinations of the antibodies and fragments which react~~ with an endothelial cell surface antigen.

26. (Withdrawn) The method of claim 25, wherein the antibody is noncovalently coated on the last layer of the matrix coating the medical device.

27. (Previously presented) The method of claim 25, wherein the antibody is tethered covalently by a linker molecule to the matrix layer coating the medical device.

28. (Canceled)

29. (Currently amended) A method of treating a mammal for atherosclerosis comprising inserting a medical device into an artery of the mammal, wherein the medical device comprises a coating **rendering the medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof**, wherein the coating comprises a therapeutically effective amount of **a type of antibody which reacts with an endothelial cell surface antigen,** ~~one or more antibodies~~ and one or more layers of a matrix~~, and wherein the one or more antibodies is selected from the group consisting of antibodies, fragments thereof and combinations of the antibodies and fragments which react with an endothelial cell surface antigen~~.

30. (Original) The method of treatment of claim 29, wherein the antibody is a monoclonal antibody.

31. (Original) The method of treatment of claim 29, wherein the atherosclerosis is coronary artery atherosclerosis.

32. (Original) The method of treatment of claim 30, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

33. (Withdrawn) A method for treating mammals for atherosclerosis comprising insertion into an artery of a medical device, wherein the medical device is coated with at least one layer of a matrix comprising polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose or carbon and a therapeutically effective amount of at least one type of antibody which reacts with an endothelial cell antigen.

34. (Withdrawn) The method of treatment of claim 33, wherein the antibody is a monoclonal antibody.

35. (Withdrawn) The method of treatment of claim 34, wherein the monoclonal antibody comprises Fab or $F(ab')_2$ fragments.

36. (Withdrawn) A method for treating mammals for obstruction of a vessel comprising insertion into a vessel of a medical device coated with at least one layer of a matrix comprising polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose or carbon and a therapeutically effective amount of at least one type of antibody which reacts with an endothelial cell antigen.

37. (Withdrawn) The method of treatment of claim 36, wherein the antibody is a monoclonal antibody.

38. (Currently amended) A method for treating a mammal for obstruction of a vessel comprising inserting a medical device into a vessel of the mammal, wherein the medical device comprises a coating **rendering the medical device compatible for *in vivo* attachment and proliferation of cells on the surface thereof**, wherein the coating comprises **a type of antibody which reacts with an endothelial cell surface antigen,** ~~one or more antibodies~~ and one or more layers layer of a matrix~~, and wherein the one or more antibodies is selected from the group consisting of antibodies, fragments thereof and combinations of the antibodies and fragments which react with an endothelial cell surface antigen~~.

39. (Previously presented) The method of treatment of claim 38, wherein the vessel is an artery.

40. (Withdrawn) The method of treatment of claim 36 or 38, wherein the vessel is a vein.

41. (Previously presented) A medical device comprising one or more layers of a matrix, wherein the matrix layer is covalently attached to the medical device and the matrix comprises a C60O fullerene.

42. (Withdrawn) The medical device of claim 41, wherein the first layer of the matrix is noncovalently attached to the medical device.

43. (Cancelled)

44. (Cancelled)

45. (Original) The medical device of claim 41, wherein the medical device is a stent.

46. (Withdrawn) The medical device of claim 41, wherein the medical device is a synthetic graft.

47. (Cancelled)

48. (Withdrawn) The medical device of claim 47, wherein the matrix is noncovalently attached to the medical device.

49. (Cancelled)

50. (Cancelled)

51. (Withdrawn) The medical device of claim 47, wherein the medical device is a synthetic graft.

52. (Withdrawn) A medical device coated with a therapeutically effective amount of at least one type of antibody which reacts with an endothelial cell antigen and at least one layer of a matrix, wherein the matrix comprises a naturally occurring material.

53. (Withdrawn) A medical device coated with a therapeutically effective amount of at least one type of antibody which reacts with an endothelial cell antigen and at least one layer of a matrix, wherein the matrix comprises a synthetic material.

54. (Withdrawn) A medical device coated with a therapeutically effective amount of at least one type of antibody which reacts with an endothelial cell antigen and at least one layer of a matrix, wherein the matrix comprises polytetrafluoroethylene.

55. (Withdrawn) A medical device coated with a therapeutically effective amount of at least one type of antibody which reacts with an endothelial cell antigen and at least one layer of a matrix, wherein the matrix comprises expanded polytetrafluoroethylene .

Claim 56-61 (cancelled)

62. (Withdrawn) The medical device according to claim 1, wherein the matrix comprises a naturally occurring material or a synthetic material.

63. (Currently amended) The medical device according to claim 1, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, **and** expanded polytetrafluoroethylene ~~and mixtures thereof~~.

64. (Currently amended) The medical device according to claim 63, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** ranges from about C60 to about C100.

65. (Currently amended) The medical device according to claim 63, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** is C60O.

66. (Withdrawn) The coating composition according to claim 18, wherein the matrix comprises a naturally occurring material or a synthetic material.

67. (Currently amended) The coating composition according to claim 20, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** ranges from about C60 to about C100.

68. (Currently amended) The coating composition according to claim 20, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** is C60O.

69. (Withdrawn) The method according to claim 25, wherein the matrix comprises a naturally occurring material or a synthetic material.

70. (Currently amended) The method according to claim 25, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, **and** expanded polytetrafluoroethylene ~~and mixtures thereof~~.

71. (Currently amended) The method according to claim 70, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** ranges from about C60 to about C100.

72. (Currently amended) The method according to claim 70, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** is C60O.

73. (Withdrawn) The method according to claim 29 or 38, wherein the matrix comprises a naturally occurring material or a synthetic material.

74. (Currently amended) The method according to claim 29 or 38, wherein the matrix comprises a material selected from the group consisting of a fullerene, polyurethane, segmented polyurethane-urea/heparin, poly-L-lactic acid, cellulose ester, polyethylene glycol, collagen, laminin, heparin, fibrin, cellulose, carbon, polytetrafluoroethylene, **and** expanded polytetrafluoroethylene ~~and mixtures thereof~~.

75. (Currently amended) The method according to claim 74, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** ranges from about C60 to about C100.

76. (Currently amended) The method according to claim 74, wherein **when** the **matrix material comprises a** fullerene**, the fullerene** is C60O.

77. (New) The coating composition of claim 18, wherein the coating composition comprises antibodies, or fragments thereof, of the type which reacts with an endothelial cell surface antigen.

78. (New) The method according to claim 25, wherein a therapeutically effective amount of antibodies, or fragments thereof, of the type which reacts with an endothelial cell surface antigen are added to the matrix layer.

79. (New) The method of claim 29 or 38, wherein the coating composition comprises antibodies, or fragments thereof, of the type which reacts with an endothelial cell surface antigen.